

What is claimed is:

1. Device for measuring machine tools, comprising  
a housing with at least one exit/entrance window,  
a power supply,  
a clamping cylinder or pin on said housing for securing the housing on a machine tool,  
a light beam transmitter for producing a light beam,  
a beam splitter in said housing, and  
an optoelectronic target in said housing, said target having a two-dimensional read-out.
2. Device as claimed in claim 1, wherein said at one exit window comprises first and second exit/entrance windows, each of which is at a different side of said beam splitter from each other and said light beam transmitter.
3. Device as claimed in claim 2, wherein said windows are filter windows and are matched to the wavelength of light emitted by said light beam transmitter.
4. Device as claimed in claim 3, wherein said light beam transmitter is a laser.
5. A system for measuring machine tools, comprising:  
a first transmitter/receiver having a housing that is mountable on a first machine tool;  
a second transmitter/receiver, identical to said first transmitter/receiver, that is mountable on a second machine tool,  
wherein each said transmitter/receiver is operable for transmitting a light beam to the other transmitter/receiver and for receiving a light beam from the other transmitter/receiver for performing alignment measurements of said machine tools based on the positional relationship of the impact points of the light beams in each transmitter/receiver.

6. A system for measuring machine tools according to claim 5, wherein each transmitter/receiver comprises:

- a housing with two combined exit/entrance windows,
- a light beam transmitter for producing a light beam,
- a beam splitter in said housing, and
- an optoelectronic target in said housing, said target having a two-dimensional read-out,

wherein each of said combined exit/entrance windows is at a different side of said beam splitter from each other and said light beam transmitter.

7. A system for measuring machine tools according to claim 6, further comprising a third transmitter/receiver that is identical to said first and second transmitter/receivers.

8. A method for measuring alignment of machine tools, comprising:

- sending a first beam from a first transmitter/receiver located on a first machine tool to a second transmitter/receiver located on a second machine tool;

- sending a second beam from said second transmitter/receiver to said first transmitter/receiver;

- obtaining deviations of impact points of said first and second beams from a target located in each of the first and second transmitter receivers; and

- using the deviations obtained for determining an offset of spindles of the machine tools.